Temporary Roads Analysis Process Notes

Hydrology Notes:
Hydrology analysis relied on the application of PDC to illustrate that temporary roads would have minimal impact on hydrologic resources. The analysis assumes that it is a "temporary" road, and as such, impacts would be temporary (short-term). There was nothing unique about the analysis for temporary roads for the Waucoma project.

> Considerations throughout analysis: landform, amount of dissection for the extent of the stream network, soils types, and geology (i.e., greater propensity for areas that would be sensitive to temp road disturbance). Develop PDC to avoid sensitive areas. PDC are developed throughout the planning process.

For the Waucoma project, analysis did not use the 2019 temporary road layer. Analysis used LiDAR and corporate layer of system roads that were decommissioned. Based on PDC, the information seen through these layers would likely provide possible temporary road areas, knowing that not all decommissioned roads can be reused (i.e., reusing existing alignments where possible). Temporary roads were generally less a concern for the Waucoma area based on soil types, landforms, and avoidance criteria for riparian reserve, and other qualitative considerations. It is generally preferred to have alignments mapped if we are certain that temporary roads would end up in a specific location, and that it would not be changed upon implementation. Temporary roads were considered in the WIA calculations (8 miles) existing road density. The potential impacts under our anticipated temp road proposal result was negligible.

Aquatics Notes:
Analysis is based on the PDC developed for temporary road placement. Based on analysis and collaborative input, the decision was made to remove the most impactful possible temporary road alignment (extending off the end of the Black Lake Road) and add the PDC regarding crossing wet areas. Analysis result would have been different if the PDC regarding wet areas did not exist (thereby allowing the Black Lake Road extension). Another example is the no wet conditions heavy haul PDC that functionally prevents sediment delivery into streams and waterways. The goal in project development was to identify PDC and measures that precludes the need to identify specific alignments for haul or other activities. The 2019 layer was reviewed, but it did not weigh heavily in the analysis for temporary roads given PDC that have been developed, and BMPs that would be followed.

Desired outcomes:

- Minimizing unwanted impacts to resources.
- Lines on a map do not result in the outcome without supporting PDC.
- Communicate openly to forest stakeholders, increase transparency through describing the PDC that would be used for temporary road placement, and removing the expectation for precision of placement that occurs when we put lines on a map (even with the caveat that locations may change).
- Balance resource concerns with providing goods and services to customers.

Wildlife Notes:
Q: Was the analysis process different based on the current approach for temporary roads?
A: No.
Q: What are examples of "disturbance" for wildlife resources [relative to temporary roads]?
A: Construction and use of temporary roads. Temporary roads would not be placed within suitable habitat; assumption is that temporary road distance is far enough away that is of minimal impact to owl. There is no critical winter habitat, and no calving habitat. Specific lengths and locations would be of greater concern if the temporary road were in suitable nesting or calving habitat, or some other sensitive wildlife area.
Q: Was the 2019 temporary road GIS layer a key factor for determining effects to wildlife? If so, how?

A: No.

Botany and Invasive Plants Notes:
Q: Was the analysis process different based on the current approach for temporary roads?
A: No.
Q: Analysis considerations?
A: Across unit surveys were completed where required. Any temporary road locations would avoid known sensitive sites (made available for the timber sale preparation crews and contract operators). Known sites of sensitive plants would be buffered, therefore a temporary road would likely not be placed atop a known site of sensitive plants. Known locations of invasive infestations will be made available to pre-sale and contract operators, if known areas cannot be avoided then pre-treatment would be applied for mitigation as per the 2005 and 2008 ROD/FEISs, as stated in the Invasives Report.
Q: What are the considerations made for temporary road-related actions/activities?
A: Locations of sensitive species and invasive weed locations.
Q: Was the 2019 GIS temporary roads layer a component of the analysis review? If so, how?
A: It was not. Sensitive species surveys are done across proposed treatment areas regardless of locations of specific actions (i.e., landing location, temporary road locations, skid trail location). Weed inventories occurring across the forest; ongoing.

Vegetation Notes:
Q: Was the analysis process different based on the current approach for temporary roads?
A: Temporary roads are part of the analysis process. The amount of area impacted by temporary roads is inconsequential compared to the scale of proposed vegetation treatment for this project. Temporary roads do not impact enough of a stand to be measurable change for this project. Temporary roads are typically 16-feet wide (maximum clearing width) and are not classified as an "opening" since canopies are still interconnected. At the Waucoma project stand level (i.e., site-specific) and at the landscape level temporary roads do not impact the metrics for which we are measuring effects. Temporary roads for the Waucoma project do not influence stand structural compositions. For example, group select openings which may be one or more acres in size changes the micro-site climate. Temporary road linear features do not affect the same kind change as created openings because canopies are still largely interconnected and stand structure elements remain. The proposed temporary road miles (8) equate to about 15 acres (using the 16-foot maximum clearing width). Unless it is a new temporary road there is typically no large overstory or mid-story trees removed during road construction. Smaller vegetation would likely be removed from use of pre-existing alignments. Some temporary roads would be on pre-existing alignments further minimizing the impacts to vegetation. The approximate 15-acre equivalent represents less than one percent of the project area. The vegetation impacts from temporary road locations would not be comparable to what could be the impact from a combined or contiguous 15-acre clear-cut. Limitations on temporary road length for each linear feature is less of a concern compared to skidding distances (i.e., moving a felled tree from the stump to the landing). Temporary roads would be strategically located to limit skidding distances as well as impacts to other resources. Typically, it is not preferred to skid material further than 600-800 feet. This consideration is highly dependent on topography. Sometimes topographic features limit ability to skid material to an existing road location, in which case a temporary road may be needed to supplement access, even if a road exists in proximity.
Q: Was the 2019 GIS temporary roads layer a component of the analysis review? If so, how?
A: The 2019 GIS temporary roads layer was created as part of a logging systems feasibly exercise.

Resource reports disclosure of effects and assumptions and methodology

For proposed action analysis. The proposed action includes temporary road construction.

Fisheries/Aquatics Report:

- Section 1.2 describes the Proposed Action that is being analyzed. The Proposed Action for the Waucoma project includes temporary roads.
- Section 2.1 Methodology: describes considerations for how the analysis is conducted. Including a description of assumptions that include, "All Best Management Practices (BMP) and Project Design Criteria (PDC) listed in the EA, Chapter 2 would be fully implemented and effective".
    - Effects analysis incorporates consideration for temporary roads, BMPs, and relevant PDC as the activity relates to impacts to fish and aquatic habitat.

Hydrology Report:

- Section 1.1 references the proposed action as it is described in the EA.
- Section 2.2 Methodology: describes considerations for how the analysis is conducted. This description includes the following statement: "BMPs and PDCs are the primary tools intended to avoid or mitigate potential effects to hydrologic resources that could result from the Proposed Action." This section also includes a table that displays a crosswalk of the methods used for evaluating the effects of the proposed action.
    - Effects analysis incorporates consideration for temporary roads, BMPs and relevant PDC as the activity relates to impacts to water quality.

Soils Report:

- Section 2.0 describes that temporary roads would be one of several "Management actions that displace, severely burn or compact soil or that remove ground cover are considered to result in a greater risk to soil productivity. The analysis will also consider restorative actions as well as the Project Design Criteria (PDC) and best management practices that minimize impact".
    - Effects analysis incorporates consideration for temporary roads, BMPs and relevant PDC as the activity relates to soil compaction and/or displacement.

Botany and Invasives Reports:

- Botany and Invasives reports Section 2.2 Methodology: describes considerations for how the analysis is conducted.
- Botany and Invasives reports Section 3.2.2. Briefly summarizes the proposed action, focusing on the elements that would impact Botany resources (including temporary roads).
    - Effects analysis incorporates consideration for temporary roads and relevant PDC as the activity relates to protecting species, and minimizing spread of invasives.

Fuels Report:

- Section 1.0 describes that the proposed action is not related to fuels reduction, therefore "This fuels analysis is brief and directly related to the existing condition, and effects of the proposed action as it relates to fuels resources."

Wildlife Report:

- Disturbance from activities (including those associated with temporary roads) is discussed in section 2.3.3 for the Northern Spotted Owl, and in section 6.3.3 for Deer and Elk.
- Analysis assumptions and methodology are described for each species in the report.
    - Effects analysis incorporates consideration for temporary roads as the activity relates to disturbance.

Heritage Report:

- Section 1.0 states "Project design criteria were developed to minimize potential impacts to these resources."
- Section 2.2 Methodology: describes considerations for how the analysis is conducted.

Transportation Report:

- Section 1.0 describes that the report is developed with regard to the transportation resource for system roads.

- Section 6.0 Appendix of the report includes a table that lists roads within the project area and the associated proposed action elements for each road. Some roads in this table are described as "Use as possible temporary road location". This table is the same as Table 9 in Appendix A of the Final EA.

Vegetation/Silviculture Report:

- Page 1 of the report (Methodology) states that the analysis is focused on "how the vegetation resources would be affected by the management actions proposed".
- Page 1 of the report (Effects Analysis/Environmental Consequences) lists the criteria used to determine effects on vegetation: total acres treated and acres treated within each plant association; changes in forest structure and composition; effects on residual trees; and effects on insect and disease processes and forest vulnerability to these elements".

Climate Report:

- Section 3.2 describes which elements of the proposed action would have the potential to affect carbon emissions or sequestration. It includes vegetation removal and fossil fuel use.
- Section 4.4 includes considerations for road building.

Visuals/Scenery Report:

- Section 1.0 states that the "report focuses on the visual aspects, and potential effects, of implementing these vegetation management strategies." This section also references PDC and states, "[u]sing the project design criteria (PDC), as well as aligning actions to be consistent with management area direction as provided in the Forest Plan, impacts to visuals would be minimal."

Recreation Report:

- Section 1.0 states that "Implementing recommended project design criteria would reduce the magnitude, scope and duration of the impacts associated with the proposed action…"
- Section 2.0 has a table that summarizes what Recreation resources used to measure effects to Recreation.
- Section 2.2 Methodology: describes considerations for how the analysis is conducted.